

Release notes for ENDF/B Development n-026_Fe_056
evaluation



April 26, 2017

- **checkr** Errors:

1. A variable is outside the allowed ENDF range
MAT=2631, MF= 4, MT= 2 (0): Variable range

```
ERROR(S) FOUND IN MAT=2631, MF= 4, MT= 2
NP2 = 3959 OUT OF RANGE      1 - 2000           RECORD NUMBER 12973
```

2. A variable is outside the allowed ENDF range
MAT=2631, MF= 4, MT= 2 (1): Variable range

```
ERROR(S) FOUND IN MAT=2631, MF= 4, MT= 2
NE = 3959 OUT OF RANGE      1 - 2000           RECORD NUMBER 12974
```

- **psyche** Warnings:

1. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 56. L = 0 / AT RESONANCE ENERGY 3.17909E+05 EV. THE GAMMA WIDTH 3.36159E+00 DEVIATES TOO MUCH FROM THE AVERAGE 1.03853E+00 (0): Gamma width

```
FILE 2
SECTION 151
ISOTOPE MASS = 56. L = 0
AT RESONANCE ENERGY 3.17909E+05 EV. THE GAMMA WIDTH 3.36159E+00 DEVIATES TOO MUCH FROM THE AVERAGE 1.03853E+00 (0): Gamma width
```

2. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 56. L = 1 / AT RESONANCE ENERGY 3.42340E+04 EV. THE GAMMA WIDTH 1.60655E+00 DEVIATES TOO MUCH FROM THE AVERAGE 5.25528E-01 (0): Gamma width

```
FILE 2
SECTION 151
ISOTOPE MASS = 56. L = 1
AT RESONANCE ENERGY 3.42340E+04 EV. THE GAMMA WIDTH 1.60655E+00 DEVIATES TOO MUCH FROM THE AVERAGE 5.25528E-01 (0): Gamma width
```

- **linear** Errors:

1. Negative cross section found
0: Neg. Sig(E)

```
Linearize ENDF/B Cross Sections (LINEAR 2015-1)
-----
Retrieval Criteria----- MAT
Monitor Mode----- Off
Minimum Cross Section----- 1.0000E-10 (Default Option)
... [119 more lines]
```

- **recent** Warnings:

1. L Dependent Scattering Radius in the Evaluation is Zero.
0: AP(E) is 0

```
Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)
```

```
=====
Retrieval Criteria-----      MAT
File 2 Minimum Cross Section- 1.0000E-10 (Standard Option)
Reactions with No Background-   Output (Resonance Contribution)
... [458 more lines]
```

- **groupie** Errors:

1. Very small elastic cross section found
0: Small elastic

```
Multi-Group and Multi-Band Parameters from ENDF/B Data (GROUPIE 2015-2)
```

```
=====
ENDF/B Input and Output Data Filenames
ENDFB.IN
ENDFB.OUT
... [97 more lines]
```

- **fudge-4.0** Warnings:

1. Cross section does not match sum of linked reaction cross sections
crossSectionSum label 0: total (Error # 0): CS Sum.

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.34%
```

2. Cross section does not match sum of linked reaction cross sections
crossSectionSum label 1: (z,n) (Error # 0): CS Sum.

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 1480.82%
```

- **fudge-4.0** Errors:

1. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-026_Fe_056.endf (Error # 0): Level mismatch (d)

```
WARNING: MT72 MF12 level energy 4100363.0 differs from MF3 value 4100364.0. Setting to MF3 value.
```

2. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-026_Fe_056.endf (Error # 1): Level mismatch (d)

```
WARNING: MT81 MF12 level energy 4458533.0 differs from MF3 value 4458534.0. Setting to MF3 value.
```

3. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-026_Fe_056.endf (Error # 2): Level mismatch (d)

```
WARNING: MT608 MF12 level energy 486310.1 differs from MF3 value 486310.0. Setting to MF12 value.
```

4. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-026_Fe_056.endf (Error # 3): Level mismatch (d)

```
WARNING: MT802 MF12 level energy 1006270.0 differs from MF3 value 1006270.2. Setting to MF3 value.
```

5. Found a negative probability
reaction label 0: n + Fe56 / Product: n / Distribution: / angularTwoBody - regions2d: / region index 0: XYs2d (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 1.557e6 eV, worst case: -0.018127661512
 WARNING: Negative probabilities encountered. Incident energy: 1.558e6 eV, worst case: -0.0261002754798
 WARNING: Negative probabilities encountered. Incident energy: 1.559e6 eV, worst case: -0.00910757785752
 WARNING: Negative probabilities encountered. Incident energy: 1.56e6 eV, worst case: -0.00465464881564
 ... plus 1 more instances of this message

6. Found a negative probability
reaction label 1: n + Fe56_e1 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

 WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -3.29765751164e-07
 WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -3.7924235433e-05
 WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -0.000206310925034
7. Found a negative probability
reaction label 6: n + Fe56_e6 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

 WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -4.34690921669e-07
8. Found a negative probability
reaction label 7: n + Fe56_e7 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

 WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -4.34690921669e-07
9. Found a negative probability
reaction label 10: n + Fe56_e10 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

 WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -1.12880581667e-05
10. Found a negative probability
reaction label 11: n + Fe56_e11 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

 WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -1.12880581667e-05
11. Found a negative probability
reaction label 12: n + Fe56_e12 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

 WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -5.97983804145e-07
 WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -0.000110508641172
 WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -9.2491514802e-05
12. Found a negative probability
reaction label 13: n + Fe56_e13 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

 WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -5.97983804145e-07
 WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -0.000110508641172
 WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -9.2491514802e-05

13. Found a negative probability
reaction label 14: n + Fe56_e14 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -5.97983804145e-07
 WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -0.000110508641172
 WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -9.2491514802e-05
14. Found a negative probability
reaction label 17: n + Fe56_e17 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -2.33977294202e-07
15. Found a negative probability
reaction label 21: n + Fe56_e21 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -8.91045386558e-06
16. Found a negative probability
reaction label 22: n + Fe56_e22 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -8.91045386558e-06
17. Found a negative probability
reaction label 23: n + Fe56_e23 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -8.91045386558e-06
18. Found a negative probability
reaction label 30: n + Fe56_e30 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 3.8e7 eV, worst case: -0.001911256
19. Found a negative probability
reaction label 31: n + Fe56_e31 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 3.8e7 eV, worst case: -0.001911256
20. Found a negative probability
reaction label 32: n + Fe56_e32 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -1.17630463616e-06
21. Found a negative probability
reaction label 33: n + Fe56_e33 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

- WARNING: Negative probabilities encountered. Incident energy: 3.8e7 eV, worst case: -0.001810163
 WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -1.17630463616e-06
22. Found a negative probability
reaction label 34: n + Fe56_e34 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 3.8e7 eV, worst case: -0.001810163
23. Found a negative probability
reaction label 38: n + Fe56_e38 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 5.5e7 eV, worst case: -1.30747550231e-05
24. Found a negative probability
reaction label 39: n + Fe56_e39 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 5.5e7 eV, worst case: -1.30747550231e-05
25. Found a negative probability
reaction label 40: n + (Fe56_c ->Fe56 + photon) / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 7.e7 eV, worst case: -1.21892686368e-13
 WARNING: Negative probabilities encountered. Incident energy: 9.e7 eV, worst case: -2.774975e-15
 WARNING: Negative probabilities encountered. Incident energy: 1.e8 eV, worst case: -5.6573255446e-14
 WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -2.93471367208e-15
 ... plus 3 more instances of this message
26. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 40: n + (Fe56_c ->Fe56 + photon) / Product: n / Distribution: (Error # 1): extraOutgoingEnergy
- WARNING: Extra zero-probability outgoing energies found at incident energy 7.5e7 eV
 WARNING: Extra zero-probability outgoing energies found at incident energy 8.e7 eV
 WARNING: Extra zero-probability outgoing energies found at incident energy 9.e7 eV
 WARNING: Extra zero-probability outgoing energies found at incident energy 9.6e7 eV
 ... plus 6 more instances of this message
27. Found a negative probability
reaction label 41: n[multiplicity:'2'] + Fe55 + photon / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 7.e7 eV, worst case: -2.20880913673e-13
 WARNING: Negative probabilities encountered. Incident energy: 9.e7 eV, worst case: -5.48675e-13
 WARNING: Negative probabilities encountered. Incident energy: 1.e8 eV, worst case: -1.23111416792e-13
 WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -3.05400772309e-14
 ... plus 3 more instances of this message
28. Found a negative probability
reaction label 42: n[multiplicity:'3'] + Fe54 + photon / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 1.e8 eV, worst case: -3.52459688293e-14
WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -5.24441449308e-14
WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -8.80032181137e-15

29. Found a negative probability
reaction label 54: H1 + (Mn56_c ->Mn56 + photon) / Product: H1 / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 9.6e7 eV, worst case: -1.44420746117e-12
WARNING: Negative probabilities encountered. Incident energy: 1.e8 eV, worst case: -1.20627591149e-11
WARNING: Negative probabilities encountered. Incident energy: 1.1e8 eV, worst case: -1.08383788922e-11
WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -3.40670459833e-11
... plus 3 more instances of this message

30. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 54: H1 + (Mn56_c ->Mn56 + photon) / Product: H1 / Distribution: (Error # 1): extraOutgoingEnergy

WARNING: Extra zero-probability outgoing energies found at incident energy 1.e8 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.1e8 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.3e8 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.5e8 eV

31. Found a negative probability
reaction label 75: H1[multiplicity:'2'] + Cr55 + photon / Product: H1 / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 1.1e8 eV, worst case: -1.39290059502e-16
WARNING: Negative probabilities encountered. Incident energy: 1.2e8 eV, worst case: -1.03817629676e-15
WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -9.00123298099e-13
WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -5.99289067415e-12
... plus 1 more instances of this message

32. Found a negative probability
reaction label 76: sumOfRemainingOutputChannels / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -6.27531425689e-20

33. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 76: sumOfRemainingOutputChannels / Product: H2 / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

WARNING: Extra zero-probability outgoing energies found at incident energy 1.4e8 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.5e8 eV

34. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 76: sumOfRemainingOutputChannels / Product: H3 / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

```
WARNING: Extra zero-probability outgoing energies found at incident energy 1.3e8 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.4e8 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.5e8 eV
```

35. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 76: sumOfRemainingOutputChannels / Product: He3 / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

```
WARNING: Extra zero-probability outgoing energies found at incident energy 1.4e8 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.5e8 eV
```

36. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 76: sumOfRemainingOutputChannels / Product: He4 / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

```
WARNING: Extra zero-probability outgoing energies found at incident energy 7.5e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 8.e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 9.e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 9.6e7 eV
... plus 6 more instances of this message
```

37. Found a negative probability
reaction label 76: sumOfRemainingOutputChannels / Product: He4 / Distribution: (Error # 1): Negative prob.

```
WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -1.30349999987e-17
WARNING: Negative probabilities encountered. Incident energy: 1.4e8 eV, worst case: -1.44855000021e-17
WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -2.02393000018e-17
```

- njoy2012 Warnings:

1. Evaluation has no unresolved resonance parameters given
unresr...calculation of unresolved resonance cross sections (0): No URR

```
---message from unresr---mat 2631 has no unresolved parameters
copy as is to nout
```

2. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (0): HEATR/hinit (4)

```
---message from hinit---mf6, mt102 does not give recoil za= 26057
photon momentum recoil used.
```

3. Evaluation has no unresolved resonance parameters given
purr...probabalistic unresolved calculation (0): No URR

```
---message from purr---mat 2631 has no unresolved parameters
copy as is to nout
```

- njoy2012 Errors:

1. An angular distribution is negative
acer...monte carlo neutron and photon data (0): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    112 for mt= 2 e= 1.557E+06
```

2. An angular distribution is negative
acer...monte carlo neutron and photon data (1): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    121 for mt= 2 e= 1.558E+06
```

3. An angular distribution is negative
acer...monte carlo neutron and photon data (2): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    91 for mt= 2 e= 1.559E+06
```

4. An angular distribution is negative
acer...monte carlo neutron and photon data (3): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    79 for mt= 2 e= 1.560E+06
```

5. An angular distribution is negative
acer...monte carlo neutron and photon data (4): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 2 e= 2.414E+06
```

6. An angular distribution is negative
acer...monte carlo neutron and photon data (5): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    2 for mt= 51 e= 1.200E+08
```

7. An angular distribution is negative
acer...monte carlo neutron and photon data (6): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    40 for mt= 51 e= 1.400E+08
```

8. An angular distribution is negative
acer...monte carlo neutron and photon data (7): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    128 for mt= 51 e= 1.500E+08
```

9. An angular distribution is negative
acer...monte carlo neutron and photon data (8): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    2 for mt= 56 e= 1.400E+08
```

10. An angular distribution is negative
acer...monte carlo neutron and photon data (9): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
2 for mt= 57 e= 1.400E+08
```

11. An angular distribution is negative
acer...monte carlo neutron and photon data (10): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
3 for mt= 60 e= 1.200E+08
```

12. An angular distribution is negative
acer...monte carlo neutron and photon data (11): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
3 for mt= 61 e= 1.200E+08
```

13. An angular distribution is negative
acer...monte carlo neutron and photon data (12): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
2 for mt= 62 e= 1.300E+08
```

14. An angular distribution is negative
acer...monte carlo neutron and photon data (13): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
57 for mt= 62 e= 1.400E+08
```

15. An angular distribution is negative
acer...monte carlo neutron and photon data (14): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
46 for mt= 62 e= 1.500E+08
```

16. An angular distribution is negative
acer...monte carlo neutron and photon data (15): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
2 for mt= 63 e= 1.300E+08
```

17. An angular distribution is negative
acer...monte carlo neutron and photon data (16): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
57 for mt= 63 e= 1.400E+08
```

18. An angular distribution is negative
acer...monte carlo neutron and photon data (17): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
46 for mt= 63 e= 1.500E+08
```

19. An angular distribution is negative
acer...monte carlo neutron and photon data (18): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
2 for mt= 64 e= 1.300E+08
```

20. An angular distribution is negative
acer...monte carlo neutron and photon data (19): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      57 for mt= 64 e= 1.400E+08
```

21. An angular distribution is negative
acer...monte carlo neutron and photon data (20): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      46 for mt= 64 e= 1.500E+08
```

22. An angular distribution is negative
acer...monte carlo neutron and photon data (21): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      1 for mt= 71 e= 1.500E+08
```

23. An angular distribution is negative
acer...monte carlo neutron and photon data (22): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      1 for mt= 72 e= 1.500E+08
```

24. An angular distribution is negative
acer...monte carlo neutron and photon data (23): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      1 for mt= 73 e= 1.500E+08
```

25. An angular distribution is negative
acer...monte carlo neutron and photon data (24): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      2 for mt= 80 e= 3.800E+07
```

26. An angular distribution is negative
acer...monte carlo neutron and photon data (25): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      2 for mt= 81 e= 3.800E+07
```

27. An angular distribution is negative
acer...monte carlo neutron and photon data (26): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      1 for mt= 82 e= 1.300E+08
```

28. An angular distribution is negative
acer...monte carlo neutron and photon data (27): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      2 for mt= 83 e= 3.800E+07
```

29. An angular distribution is negative
acer...monte carlo neutron and photon data (28): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    1 for mt= 83 e= 1.300E+08
```

30. An angular distribution is negative
acer...monte carlo neutron and photon data (29): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    2 for mt= 84 e= 3.800E+07
```

31. An angular distribution is negative
acer...monte carlo neutron and photon data (30): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    4 for mt= 88 e= 5.500E+07
```

32. An angular distribution is negative
acer...monte carlo neutron and photon data (31): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    4 for mt= 89 e= 5.500E+07
```

33. An angular distribution is negative
acer...monte carlo neutron and photon data (32): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    5 for mt= 5 e= 1.253E+02
```

34. An angular distribution is negative
acer...monte carlo neutron and photon data (33): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    1 for mt= 16 e= 5.592E+01
```

35. An angular distribution is negative
acer...monte carlo neutron and photon data (34): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    3 for mt= 16 e= 5.747E+01
```

36. An angular distribution is negative
acer...monte carlo neutron and photon data (35): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    1 for mt= 16 e= 7.463E+01
```

37. An angular distribution is negative
acer...monte carlo neutron and photon data (36): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    3 for mt= 16 e= 1.010E+02
```

38. An angular distribution is negative
acer...monte carlo neutron and photon data (37): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
    1 for mt= 16 e= 1.123E+02
```

39. An angular distribution is negative
acer...monte carlo neutron and photon data (38): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    3 for mt= 16 e= 1.134E+02
```

40. An angular distribution is negative
acer...monte carlo neutron and photon data (39): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 16 e= 1.124E+02
```

41. An angular distribution is negative
acer...monte carlo neutron and photon data (40): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    2 for mt= 16 e= 1.150E+02
```

42. An angular distribution is negative
acer...monte carlo neutron and photon data (41): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    2 for mt= 16 e= 1.238E+02
```

43. An angular distribution is negative
acer...monte carlo neutron and photon data (42): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 17 e= 7.463E+01
```

44. An angular distribution is negative
acer...monte carlo neutron and photon data (43): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    2 for mt= 17 e= 9.282E+01
```

45. An angular distribution is negative
acer...monte carlo neutron and photon data (44): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 17 e= 1.137E+02
```

46. An angular distribution is negative
acer...monte carlo neutron and photon data (45): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 91 e= 5.592E+01
```

47. An angular distribution is negative
acer...monte carlo neutron and photon data (46): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    3 for mt= 91 e= 5.747E+01
```

48. An angular distribution is negative
acer...monte carlo neutron and photon data (47): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    1 for mt= 91 e= 7.463E+01
```

49. An angular distribution is negative
acer...monte carlo neutron and photon data (48): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    3 for mt= 91 e= 9.282E+01
```

50. An angular distribution is negative
acer...monte carlo neutron and photon data (49): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    4 for mt= 91 e= 9.894E+01
```

51. An angular distribution is negative
acer...monte carlo neutron and photon data (50): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    3 for mt= 91 e= 1.178E+02
```

52. An angular distribution is negative
acer...monte carlo neutron and photon data (51): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    3 for mt= 91 e= 1.088E+02
```

53. An angular distribution is negative
acer...monte carlo neutron and photon data (52): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    1 for mt= 91 e= 1.206E+02
```

54. An angular distribution is negative
acer...monte carlo neutron and photon data (53): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    2 for mt= 91 e= 1.241E+02
```

55. An angular distribution is negative
acer...monte carlo neutron and photon data (54): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    1 for mt= 91 e= 1.213E+02
```

56. An angular distribution is negative
acer...monte carlo neutron and photon data (55): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    5 for mt= 91 e= 1.238E+02
```

57. An angular distribution is negative
acer...monte carlo neutron and photon data (56): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    6 for mt= 91 e= 1.251E+02
```

58. An angular distribution is negative
acer...monte carlo neutron and photon data (57): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      3 for mt= 91 e= 1.263E+02
```

59. An angular distribution is negative
acer...monte carlo neutron and photon data (58): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      1 for mt= 91 e= 1.301E+02
```

60. An angular distribution is negative
acer...monte carlo neutron and photon data (59): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      1 for mt= 91 e= 1.339E+02
```

61. An angular distribution is negative
acer...monte carlo neutron and photon data (60): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      78 for mt= 91 e= 1.377E+02
```

62. An angular distribution is negative
acer...monte carlo neutron and photon data (61): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      3 for mt=111 e= 9.295E+01
```

63. An angular distribution is negative
acer...monte carlo neutron and photon data (62): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      2 for mt=111 e= 1.020E+02
```

64. An angular distribution is negative
acer...monte carlo neutron and photon data (63): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      3 for mt=111 e= 1.030E+02
```

65. An angular distribution is negative
acer...monte carlo neutron and photon data (64): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      23 for mt=111 e= 1.101E+02
```

66. An angular distribution is negative
acer...monte carlo neutron and photon data (65): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      61 for mt=111 e= 1.112E+02
```

67. An angular distribution is negative
acer...monte carlo neutron and photon data (66): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
20 for mt=111 e= 1.123E+02
```

68. An angular distribution is negative
acer...monte carlo neutron and photon data (67): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
36 for mt=111 e= 1.147E+02
```

69. An angular distribution is negative
acer...monte carlo neutron and photon data (68): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
65 for mt=111 e= 1.159E+02
```

70. An angular distribution is negative
acer...monte carlo neutron and photon data (69): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
65 for mt=111 e= 1.170E+02
```

71. An angular distribution is negative
acer...monte carlo neutron and photon data (70): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
37 for mt=111 e= 1.182E+02
```

72. An angular distribution is negative
acer...monte carlo neutron and photon data (71): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
10 for mt=111 e= 1.194E+02
```

73. An angular distribution is negative
acer...monte carlo neutron and photon data (72): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
25 for mt=111 e= 1.206E+02
```

74. An angular distribution is negative
acer...monte carlo neutron and photon data (73): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
24 for mt=111 e= 1.218E+02
```

75. An angular distribution is negative
acer...monte carlo neutron and photon data (74): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
3 for mt=111 e= 1.099E+02
```

76. An angular distribution is negative
acer...monte carlo neutron and photon data (75): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
1 for mt=111 e= 1.137E+02
```

77. An angular distribution is negative
acer...monte carlo neutron and photon data (76): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt=111 e= 1.162E+02
```

78. An angular distribution is negative
acer...monte carlo neutron and photon data (77): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    30 for mt=111 e= 1.213E+02
```

79. An angular distribution is negative
acer...monte carlo neutron and photon data (78): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    32 for mt=111 e= 1.225E+02
```

80. An angular distribution is negative
acer...monte carlo neutron and photon data (79): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    30 for mt=111 e= 1.238E+02
```

81. An angular distribution is negative
acer...monte carlo neutron and photon data (80): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    41 for mt=111 e= 1.263E+02
```

82. An angular distribution is negative
acer...monte carlo neutron and photon data (81): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    29 for mt=111 e= 1.276E+02
```

83. An angular distribution is negative
acer...monte carlo neutron and photon data (82): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    32 for mt=111 e= 1.289E+02
```

84. An angular distribution is negative
acer...monte carlo neutron and photon data (83): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    29 for mt=111 e= 1.314E+02
```

85. An angular distribution is negative
acer...monte carlo neutron and photon data (84): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    58 for mt=649 e= 8.914E+01
```

86. An angular distribution is negative
acer...monte carlo neutron and photon data (85): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    1 for mt=649 e= 8.492E+01
```

87. An angular distribution is negative
acer...monte carlo neutron and photon data (86): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    1 for mt=649 e= 8.578E+01
```

88. An angular distribution is negative
acer...monte carlo neutron and photon data (87): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    67 for mt=649 e= 9.093E+01
```

89. An angular distribution is negative
acer...monte carlo neutron and photon data (88): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    32 for mt=649 e= 9.178E+01
```

90. An angular distribution is negative
acer...monte carlo neutron and photon data (89): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    32 for mt=649 e= 9.264E+01
```

91. An angular distribution is negative
acer...monte carlo neutron and photon data (90): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    10 for mt=649 e= 9.577E+01
```

92. An angular distribution is negative
acer...monte carlo neutron and photon data (91): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    50 for mt=649 e= 9.765E+01
```

93. An angular distribution is negative
acer...monte carlo neutron and photon data (92): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    41 for mt=649 e= 9.858E+01
```

94. An angular distribution is negative
acer...monte carlo neutron and photon data (93): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    18 for mt=649 e= 9.952E+01
```

95. An angular distribution is negative
acer...monte carlo neutron and photon data (94): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
    22 for mt=649 e= 1.005E+02
```

96. An angular distribution is negative
acer...monte carlo neutron and photon data (95): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    45 for mt=649 e= 1.014E+02
```

97. An angular distribution is negative
acer...monte carlo neutron and photon data (96): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    26 for mt=649 e= 1.023E+02
```

98. An angular distribution is negative
acer...monte carlo neutron and photon data (97): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    54 for mt=649 e= 1.030E+02
```

99. An angular distribution is negative
acer...monte carlo neutron and photon data (98): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    50 for mt=649 e= 1.040E+02
```

100. An angular distribution is negative
acer...monte carlo neutron and photon data (99): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    26 for mt=649 e= 1.051E+02
```

101. An angular distribution is negative
acer...monte carlo neutron and photon data (100): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    82 for mt=649 e= 1.061E+02
```

102. An angular distribution is negative
acer...monte carlo neutron and photon data (101): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    36 for mt=649 e= 1.071E+02
```

103. An angular distribution is negative
acer...monte carlo neutron and photon data (102): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    49 for mt=649 e= 1.081E+02
```

104. An angular distribution is negative
acer...monte carlo neutron and photon data (103): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    35 for mt=649 e= 1.091E+02
```

105. An angular distribution is negative
acer...monte carlo neutron and photon data (104): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
43 for mt=649 e= 1.102E+02
```

106. An angular distribution is negative
acer...monte carlo neutron and photon data (105): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
38 for mt=649 e= 1.112E+02
```

107. An angular distribution is negative
acer...monte carlo neutron and photon data (106): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
39 for mt=649 e= 1.122E+02
```

108. An angular distribution is negative
acer...monte carlo neutron and photon data (107): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
1 for mt=649 e= 9.580E+01
```

109. An angular distribution is negative
acer...monte carlo neutron and photon data (108): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
48 for mt=649 e= 1.101E+02
```

110. An angular distribution is negative
acer...monte carlo neutron and photon data (109): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
74 for mt=649 e= 1.112E+02
```

111. An angular distribution is negative
acer...monte carlo neutron and photon data (110): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
17 for mt=649 e= 1.123E+02
```

112. An angular distribution is negative
acer...monte carlo neutron and photon data (111): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
43 for mt=649 e= 1.134E+02
```

113. An angular distribution is negative
acer...monte carlo neutron and photon data (112): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
48 for mt=649 e= 1.145E+02
```

114. An angular distribution is negative
acer...monte carlo neutron and photon data (113): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
66 for mt=649 e= 1.156E+02
```

115. An angular distribution is negative
acer...monte carlo neutron and photon data (114): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      34 for mt=649 e= 1.167E+02
```

116. An angular distribution is negative
acer...monte carlo neutron and photon data (115): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      31 for mt=649 e= 1.178E+02
```

117. An angular distribution is negative
acer...monte carlo neutron and photon data (116): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      19 for mt=649 e= 1.189E+02
```

118. An angular distribution is negative
acer...monte carlo neutron and photon data (117): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      57 for mt=649 e= 1.200E+02
```

119. An angular distribution is negative
acer...monte carlo neutron and photon data (118): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      30 for mt=649 e= 1.211E+02
```

120. An angular distribution is negative
acer...monte carlo neutron and photon data (119): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      5 for mt=649 e= 1.135E+02
```

121. An angular distribution is negative
acer...monte carlo neutron and photon data (120): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      31 for mt=649 e= 1.147E+02
```

122. An angular distribution is negative
acer...monte carlo neutron and photon data (121): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      33 for mt=649 e= 1.159E+02
```

123. An angular distribution is negative
acer...monte carlo neutron and photon data (122): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
      35 for mt=649 e= 1.170E+02
```

124. An angular distribution is negative
acer...monte carlo neutron and photon data (123): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
28 for mt=649 e= 1.182E+02
```

125. An angular distribution is negative
acer...monte carlo neutron and photon data (124): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
45 for mt=649 e= 1.194E+02
```

126. An angular distribution is negative
acer...monte carlo neutron and photon data (125): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
29 for mt=649 e= 1.206E+02
```

127. An angular distribution is negative
acer...monte carlo neutron and photon data (126): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
45 for mt=649 e= 1.218E+02
```

128. An angular distribution is negative
acer...monte carlo neutron and photon data (127): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
85 for mt=649 e= 1.230E+02
```

129. An angular distribution is negative
acer...monte carlo neutron and photon data (128): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
27 for mt=649 e= 1.241E+02
```

130. An angular distribution is negative
acer...monte carlo neutron and photon data (129): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
26 for mt=649 e= 1.253E+02
```

131. An angular distribution is negative
acer...monte carlo neutron and photon data (130): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
57 for mt=649 e= 1.265E+02
```

132. An angular distribution is negative
acer...monte carlo neutron and photon data (131): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
30 for mt=649 e= 1.277E+02
```

133. An angular distribution is negative
acer...monte carlo neutron and photon data (132): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
31 for mt=649 e= 1.289E+02
```

134. An angular distribution is negative
acer...monte carlo neutron and photon data (133): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    46 for mt=649 e= 1.300E+02
```

135. An angular distribution is negative
acer...monte carlo neutron and photon data (134): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    30 for mt=649 e= 1.312E+02
```

136. An angular distribution is negative
acer...monte carlo neutron and photon data (135): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt=649 e= 1.150E+02
```

137. An angular distribution is negative
acer...monte carlo neutron and photon data (136): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    4 for mt=649 e= 1.162E+02
```

138. An angular distribution is negative
acer...monte carlo neutron and photon data (137): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    3 for mt=649 e= 1.175E+02
```

139. An angular distribution is negative
acer...monte carlo neutron and photon data (138): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    33 for mt=649 e= 1.200E+02
```

140. An angular distribution is negative
acer...monte carlo neutron and photon data (139): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    30 for mt=649 e= 1.213E+02
```

141. An angular distribution is negative
acer...monte carlo neutron and photon data (140): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    28 for mt=649 e= 1.225E+02
```

142. An angular distribution is negative
acer...monte carlo neutron and photon data (141): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    45 for mt=649 e= 1.238E+02
```

143. An angular distribution is negative
acer...monte carlo neutron and photon data (142): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
104 for mt=649 e= 1.251E+02
```

144. An angular distribution is negative
acer...monte carlo neutron and photon data (143): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
2 for mt=649 e= 1.263E+02
```

145. An angular distribution is negative
acer...monte carlo neutron and photon data (144): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
65 for mt=649 e= 1.276E+02
```

146. An angular distribution is negative
acer...monte carlo neutron and photon data (145): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
58 for mt=649 e= 1.289E+02
```

147. An angular distribution is negative
acer...monte carlo neutron and photon data (146): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
37 for mt=649 e= 1.301E+02
```

148. An angular distribution is negative
acer...monte carlo neutron and photon data (147): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
40 for mt=649 e= 1.314E+02
```

149. An angular distribution is negative
acer...monte carlo neutron and photon data (148): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
43 for mt=649 e= 1.327E+02
```

150. An angular distribution is negative
acer...monte carlo neutron and photon data (149): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
30 for mt=649 e= 1.339E+02
```

151. An angular distribution is negative
acer...monte carlo neutron and photon data (150): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
58 for mt=649 e= 1.352E+02
```

152. An angular distribution is negative
acer...monte carlo neutron and photon data (151): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found  
55 for mt=649 e= 1.364E+02
```

153. An angular distribution is negative
acer...monte carlo neutron and photon data (152): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    26 for mt=649 e= 1.377E+02
```

154. An angular distribution is negative
acer...monte carlo neutron and photon data (153): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    69 for mt=649 e= 1.390E+02
```

155. An angular distribution is negative
acer...monte carlo neutron and photon data (154): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    44 for mt=649 e= 1.402E+02
```

156. An angular distribution is negative
acer...monte carlo neutron and photon data (155): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 5 e= 8.795E+01
```

157. An angular distribution is negative
acer...monte carlo neutron and photon data (156): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    4 for mt= 5 e= 1.023E+02
```

158. An angular distribution is negative
acer...monte carlo neutron and photon data (157): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 5 e= 1.045E+02
```

159. An angular distribution is negative
acer...monte carlo neutron and photon data (158): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    2 for mt= 5 e= 1.057E+02
```

160. An angular distribution is negative
acer...monte carlo neutron and photon data (159): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    3 for mt= 5 e= 1.069E+02
```

161. An angular distribution is negative
acer...monte carlo neutron and photon data (160): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found
    1 for mt= 5 e= 1.093E+02
```

162. An angular distribution is negative
acer...monte carlo neutron and photon data (161): Neg. $P(Ej\mu)$ (b)

```
---message from ptleg2---negative probs found  
2 for mt= 5 e= 1.129E+02
```

- **acelst** Warnings:

1. The incident energy grid is not monotonic for this angular distribution
0: Bad Ang. Dist.

```
ACELST WARNING - Processing Ang.Dist.MT      2  
E-grid non-monotonic 4.50000000E+01 4.50000000E+01
```

- **xsectplotter** Errors:

1. Level energy in gamma data doesn't match level energy in cross section data
(Error # 2): Level mismatch (d)

```
WARNING: MT72 MF12 level energy 4100363.0 differs from MF3 value 4100364.0. Setting to MF3 value.
```

2. Level energy in gamma data doesn't match level energy in cross section data
(Error # 3): Level mismatch (d)

```
WARNING: MT81 MF12 level energy 4458533.0 differs from MF3 value 4458534.0. Setting to MF3 value.
```

3. Level energy in gamma data doesn't match level energy in cross section data
(Error # 4): Level mismatch (d)

```
WARNING: MT608 MF12 level energy 486310.1 differs from MF3 value 486310.0. Setting to MF12 value.
```

4. Level energy in gamma data doesn't match level energy in cross section data
(Error # 5): Level mismatch (d)

```
WARNING: MT802 MF12 level energy 1006270.0 differs from MF3 value 1006270.2. Setting to MF3 value.
```